

WHAT IS CLAIMED IS:

1. A method of controlling a rate at which a cell transmitting apparatus is allowed to transmit cells to a cell receiving apparatus through a connection in a communication network, the connection having a minimum cell rate determined when the connection is set up, the method comprising the steps of:

(a) establishing a lowest cell rate lower than the minimum cell rate;

(b) measuring an input rate at which the cell transmitting apparatus is currently receiving cells to transmit on the connection;

(c) receiving cell rate information from the cell receiving apparatus; and

(d) determining an allowable cell rate within which the cell transmitting apparatus may transmit said cells on the connection, the allowable cell rate being determined from at least said input rate and said cell rate information, the allowable cell rate being set at the lowest cell rate under a certain condition in which the input rate is lower than the minimum cell rate.

2. The method of claim 1, wherein the allowable cell rate is set at the lowest cell rate in said step (d) when there is no cell traffic on the connection.

3. The method of claim 1, wherein the allowable cell rate is set at the lowest cell rate in said step (d) when the input rate is less than the lowest cell rate.

4. The method of claim 3, wherein the allowable cell rate is set at the input rate in said step (d) if the input rate is greater than the lowest cell rate but less than the

minimum cell rate.

5. A cell transmitting apparatus transmitting cells to a cell receiving apparatus through a connection in a communication network, the connection having a minimum cell rate determined when the connection is set up, the cell transmitting apparatus comprising:

an input rate calculation unit measuring an input rate at which the cell transmitting apparatus is currently receiving cells to transmit on the connection; and

an allowable rate calculation unit coupled to the input rate calculation unit, receiving cell rate information from the cell receiving apparatus, and determining an allowable cell rate within which the cell transmitting apparatus may transmit said cells on the connection, the allowable cell rate being determined from at least said input rate and said cell rate information, the allowable cell rate being set at a predetermined lowest cell rate under a certain condition in which the input rate is lower than the minimum cell rate, the predetermined lowest cell rate being lower than the minimum cell rate.

6. The cell transmitting apparatus of claim 5, wherein the allowable rate calculation unit makes the allowable cell rate equal to the predetermined lowest cell rate when there is no cell traffic on the connection.

7. The cell transmitting apparatus of claim 5, wherein the allowable rate calculation unit makes the allowable cell rate equal to the predetermined lowest cell rate when the input rate is less than the lowest cell rate.

8. The cell transmitting apparatus of claim 5, wherein the allowable rate calculation unit makes the allowable cell

rate equal to the input rate when the input rate is greater than the lowest cell rate but less than the minimum cell rate.

9. A traffic control system for controlling cell traffic on a connection in a communication network, the connection having a minimum cell rate determined when the connection is set up, the traffic control system including a cell transmitting apparatus for transmitting cells on the connection and a cell receiving apparatus for receiving the transmitted cells and providing cell rate information to the cell transmitting apparatus, the cell transmitting apparatus comprising:

- an input rate calculation unit measuring an input rate at which the cell transmitting apparatus is currently receiving cells to transmit on the connection; and
- an allowable rate calculation unit coupled to the input rate calculation unit, receiving said cell rate information from the cell receiving apparatus, and determining an allowable cell rate within which the cell transmitting apparatus may transmit said cells on the connection, the allowable cell rate being determined from at least said input rate and said cell rate information, the allowable cell rate being set at a predetermined lowest cell rate under a certain condition in which the input rate is lower than the minimum cell rate, the predetermined lowest cell rate being lower than the minimum cell rate.

10. The traffic control system of claim 9, further comprising a switching apparatus disposed between the cell transmitting apparatus and the cell receiving apparatus.

11. The traffic control system of claim 10, wherein the cell transmitting apparatus functions as an input line

interface for the switching apparatus, and the cell receiving apparatus functions as an output line interface for the switching apparatus.